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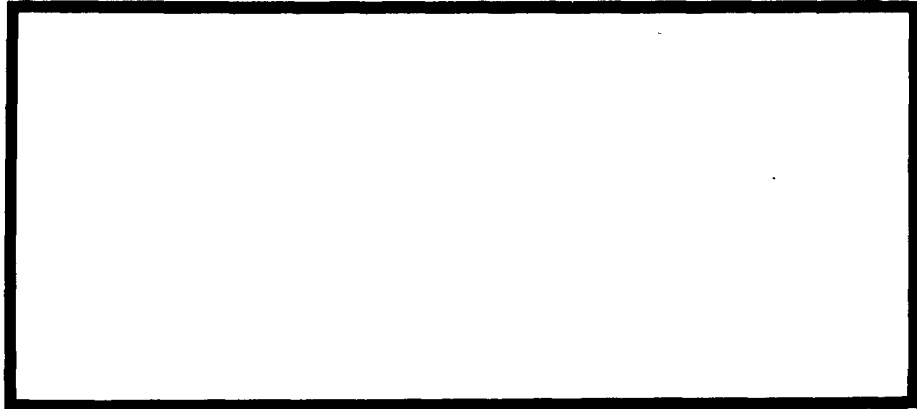
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THE BOEING COMPANY

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RAC

NUMBER ⑭ 02-3929-431 CODE IDENT. NO. 81205
UNCLASSIFIED TITLE ⑥ ACCEPTANCE SUMMARY REPORT - FTM 431
MODEL SPECIFICATION S-133-1000-0-1
MODEL NO. XSM - 808⑤ CONTRACT NO. AF-4(647)289
ISSUE NO. F-26 ISSUED TO ASD/DWTMR
CLASSIFIED TITLE UNCLASSIFIED
(STATE CLASSIFICATION)
CHARGE NUMBER

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PREPARED BY ⑩ R. E. Merriman 6/19/63
SUPERVISED BY R. E. Merriman 6/19/63
APPROVED BY Ray B. Jones 6/20/63
CLASS. & DIST. Ray B. Jones 6/20/63
APPROVED BY Ray B. Jones 6/20/63
(DATE)

⑪ 20 Jun 63

Doc/Rev 6-21-34

ACTIVE PAGE											
SECTION	PAGE	REV SYM	SECTION	PAGE	REV SYM	SECTION	PAGE	REV SYM	SECTION	PAGE	REV SYM
I	0 1 2 3 4		V	0 1 2 3 4 5 6 7 8		VIII	0 1 2 3 4 5				
II	0 1 2 3 4 5 6 7 8 9		VI	0 1 2 3							
III	0 1 2 3 4 5		VII	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17							
IV	0 1 2 3 4 5 6 7 8 9										

REV SYM _____
BATC-286

BOEING VOL. NO D2-3929-431
SEC I PAGE 1

SECTION I GENERAL	PAGE
TITLE	0
ACTIVE CHANGED PAGE	1
TABLE OF CONTENTS	2
PURPOSE AND SCOPE	3
ABBREVIATIONS	4
SECTION II - ACCEPTANCE CERTIFICATION	0
STL ACCEPTANCE RECOMMENDATION	1
AFBSD CERTIFICATION OF MISSILE ACCEPTANCE	2
MODEL SPECIFICATION STATUS	3
TBC TECHNICAL CERTIFICATION	4
BQC SPECIFICATION CERTIFICATION	5
ASSOCIATE CONTRACTOR SPECIFICATION CERTIFICATION	6-9
SECTION III - WAIVER AND DEVIATION SUMMARY	0
DEFINITION OF WAIVERS AND DEVIATIONS	1
WAIVER AND DEVIATION CLASSIFICATION	2
INDEX OF TYPE 1 WAIVERS AND DEVIATIONS	3
INDEX OF TYPE 2 DEVIATIONS	4
INDEX OF TYPE 2 WAIVERS	5
SECTION IV DEVIATIONS	0
ROCKET DEVIATIONS	1-4
AUTONETICS DEVIATIONS	5-9
THIOLOL DEVIATIONS	
AEROJET DEVIATIONS	
HERCULES DEVIATIONS	
SECTION V WAIVERS	0
BOEING WAIVERS	1-7
AUTONETICS WAIVERS	8
THIOLOL WAIVERS	
AEROJET WAIVERS	
HERCULES WAIVERS	
SECTION VI - SHORTAGES AND TRAVELER ITEMS	0
SHORTAGE ITEMS	1
TRAVELER ITEMS	2
INCOMPLETE ITEMS	3
SECTION VII EQUIPMENT IDENTIFICATION	0
MISSILE CONFIGURATION INDEX	1-11
MISSILE DRAWING INDEX	12
G & C SYSTEM DRAWING INDEX	13
FIRST STAGE MOTOR DRAWING INDEX	14
SECOND STAGE MOTOR DRAWING INDEX	15
THIRD STAGE MOTOR DRAWING INDEX	16
MISSILE CONFIGURATION DRAWING	17
SECTION VIII COMMITTED ENGINEERING CHANGES	0
CHANGE STATUS	1-5

REVISED _____

U3 4288 2000 (WAS PAC 4131D)

BOEING

VOL.

NO D2-3929-431

SEC.

I

PAGE 2

PURPOSE

this volume
The purpose of ~~B2-3929~~ is to document an Acceptance Summary Report for Flight Test Missiles as required to support final acceptance activities at the Boeing Test Site.

It provides evidence of missile configuration identification and certification. It defines deviations from compliance with the Airborne Vehicle Model Specification S-133-1000-0-1. ↗

Reference Document D2-6272, Missile Functional Test Procedures, for a record of testing performed and for a record of specified acceptance test measurements.

Reference D2-9611, Failure and Time/Cycle Data, for a record of Reliability Data.

SCOPE

This document contains the following:

1. Waivers and Deviations granted by Air Force Ballistic System Division/Space Technology Laboratories (AFBSD/STL).

This includes all waivers and deviations granted by AFBSD/STL at the Boeing Test Site against the requirements of Model Specifications S-133-1000-0-1 for this missile.

2. Contractor Certification Forms - Certification by Boeing Engineering and Quality Control that the Missile Assembly complies with the requirements of the applicable specification and/or top drawing.

Certification by Autonetics, Thiokol Chemical Corporation, Aerojet General Corporation and Hercules Powder Company, of compliance with applicable specifications and/or top drawing.

3. Part Shortage Items - A list of part shortages for the Missile and a list incomplete items traveled to the Launch Area.
4. Equipment Identification Forms - Identify by Equipment Model and/or Drawing Number the Missile Configuration (Ref. Sec. VII, Page 0).

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US 4306 2009 (WAS 9AC 4131D)

BOEING

VOL.

NO D2-3929-4

SEC. I

PAGE 3

ABBREVIATIONS USED IN THIS DOCUMENT

AFBSD.....AIR FORCE BALLISTIC SYSTEM DIVISION
 AGC.....AERJET GENERAL CORPORATION
 AN.....AUTONETICS
 BATC.....BOEING ATLANTIC TEST CENTER
 BQC.....BOEING QUALITY CONTROL
 CO.....COMPANY
 CORP.....CORPORATION
 DWG.....DRAWING
 FTM.....FLIGHT TEST MISSILE
 G&C.....GUIDANCE AND CONTROL
 HPC.....HERCULES POWDER COMPANY
 MAB.....MISSILE ASSEMBLY BUILDING
 M&IR.....MANUFACTURING AND INSPECTION RECORD
 N/A.....NOT AVAILABLE, NOT APPLICABLE
 NO.....NUMBER
 P/N.....PART NUMBER
 REF.....REFERENCE
 SEC.....SECTION
 S/N.....SERIAL NUMBER
 STL.....SPACE TECHNOLOGY LABORATORIES
 TBC.....THE BOEING COMPANY
 UER.....UNPLANNED EVENT RECORD
 VOL.....VOLUME
 XDUCE.....TRANSDUCER

MODEL XSM-80B

DOCUMENT NUMBER D2-3929-431

SECTION OR ADDENDUM NO. II

TITLE

ACCEPTANCE CERTIFICATION

NO. OF PAGES 10

DATE June 19, 1963

PREPARED BY *A. Hemmestad*

APPROVED BY *K.E. Morrison*

APPROVED BY *Walter R. Quire*

APPROVED BY *Walter R. Quire*

WORK ORDER

UNIT NO.

ITEM NO.

Sub-section title page

DOCUMENTS

046 0000 (WAS BAC 1142A)

D2-3929-431

PAGE 0

STL ACCEPTANCE RECOMMENDATION

To: Chairman, WS-153A
Acceptance Team

From: Howard Doane

1. WS-153A MINUTEMAN Flight Test Missile S/N 431 has been examined by STL.

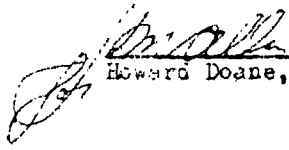
Technical compliance of this missile with current requirements has been established, and acceptance of the missile is recommended.

2. This recommendation is based on:

- 2.1 Visual examination of the missile; following system compatibility testing in MAB.

- 2.2 Analysis of all test data through system compatibility testing in MAB, using S-133-1000-C-1 Model Specification as criteria.

- 2.3 Review of discrepancy reports, waivers, deviations and shortage lists.


Howard Doane, Senior STL Member

Date 6-19-3

REVISED _____

UJ 4200 2000 (WAS BAC 4131D)

BOEING	VOL.	NO D2-3929-4 31
	SEC. II	PAGE 1

CERTIFICATION OF MISSILE ACCEPTANCE

This is to certify that Flight Test Missile 431
is accepted.

Signed Jack H. Kennedy, Jr.
AFBSD Representative
(Acceptance Team Chairman)

Date 17 June 68

REVISED _____

U3 4826 2000 (WAS SAC 41310)

BOEING	VOL	NO D2-3929-431
SEC. II	PAGE	2

MODEL SPECIFICATION STATUS

1. MODEL SPECIFICATION

Model Specification S-133-1000-0-1, (Boeing Document D2-14286-1, revised 15 October '62, titled, "R & D Prototypes for Wing II Missiles," and D2-14286-2, dated 28 August '62, titled "R & D Addenda S-133-1000-0-1, Telemetry Outputs")

2. APPLICABLE SCN'S

A. SCN's to D2-14286-1, applicable to this missile.

1 thru 27 and 30 thru 36.

B. SCN's to D2-14286-2, applicable to this missile.

50, 59, 100 thru 104, 109, 119 thru 123, 127, 128,
130, 131, 132, 134.

THE BOEING COMPANY TECHNICAL CERTIFICATION

The undersigned has reviewed the Engineering Data and certifies that the Missile meets the requirements of the Missile Model Specification (Ref. Page 3, Sec. II) with the exception of Deviations, waivers and Shortages as noted in Sections IV, V and VI of this Document.

Signed S. E. Brown
Engineering Representative for
The Boeing Company

Date 6/19/65

MISSILE SPECIFICATION CERTIFICATION

This is to certify:

1. That the Missile and the associated M&IE Integrated Records have been inspected and reviewed, and that All specifications and requirements per the Missile Model Specification (Ref. Page 5, Sec. II) have been met with the exception of Deviations, Waivers and Shortages as noted in Section IV, V and VI of this Document.
2. That the Missile has been inspected and meets the Visual Physical Specification Requirements, such as finish, workmanship, freedom from damage, etc.
3. That all installed and portable test support equipment used to test the missile was certified as noted on the applicable M&IE Records.

Listed below is the Associate Contractors' documentation in which the home plant waivers and/or deviations are contained.

1. The Boeing Co.: D2-10889-1, Vol. 44 and D2-10889-2, Vol. 44
2. Autonetics: Minuteman G&C Set Acceptance Data Book - Unit 10 Model W1010H
3. Thiokol Chemical Corp: Engine Acceptance Log - S/N 0010041 Model 1035
4. Aerojet General Corp: Engine Acceptance Log - S/N 0020042 Model 1036
5. Hercules Powder Co.: Engine Acceptance Log - S/N 0030040 Model 1037

Signed R. E. McQuinn
Boeing Quality Control
Representative

Date JUNE 19, 1963

ASSOCIATE CONTRACTOR SPECIFICATION CERTIFICATION

This is to certify the the Automatic Guidance and Control
System, Model NF108 Unit 10 meets the Specifications
And Requirements of the Missile Model Specification (Ref. Page
3, Sec. II) with the following exceptions:

Deviations listed on pages 5 thru 9 of Section IV and Waiver
listed on page 8 of Section V of this Document D2-3929-431.

Signed

W. E. Jones

Representative for AUTOMATICS
Quality Control and Reliability

Date

19 June 63

REVISED _____

US GPO 2000 (WAS GAC 41210)

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VOL

NO. D2-3929-4

SEC. 17

PAGE 4

ASSOCIATE CONTRACTOR SPECIFICATION CERTIFICATION

This is to certify that the First Stage Motor, Serial Number
0010041 meets all Specifications and requirements of the
Missile Model Specification (Ref. Page 3, Sec. II) with the
following exceptions:

NONE

Signed [Signature]
Representative for
Thiokol Chemical Corporation

Date 1 June 1962

ASSOCIATE CONTRACTOR SPECIFICATION CERTIFICATION

This is to certify that the Second Stage Motor, Serial Number
0020042 meets all Specifications and Requirements of the
Missile Model Specification (Ref. Page 3, Sec. II) with the
following exceptions:

NONE

Signed [Signature] Date 6/1/63
Representative for
Aerojet-General Corp.

ASSOCIATE CONTRACTOR SPECIFICATION CERTIFICATION

This is to certify that the Third Stage Motor, Serial Number
00300 40 meets all Specifications and Requirements of the
Missile Model Specification (Ref. Page 3, Sec. II) with the
following exceptions:

NONE

Signed [Signature]
Representative for
Hercules Powder Company

Date 6-18-63

MODEL XSM-80B

DOCUMENT NUMBER D2-3929-431

SECTION OR ADDENDUM NO. LII

TITLE

WAIVER & DEVIATION SUMMARY

NO. OF PAGES 6

DATE June 19, 1963

PREPARED BY *[Signature]*

APPROVED BY *F. E. McQuinn*

APPROVED BY *[Signature]*

APPROVED BY *[Signature]*

WORK ORDER

UNIT NO.

ITEM NO.

Sub-section title page
DOCUMENTS

D2-3929-431
PAGE 0

4046 0000 (WAS SAC 11/2A)

DEFINITION OF WAIVERS AND DEVIATIONS

WAIVER: - A waiver will be instituted when the configuration of the Missile Assembly cannot meet the requirements of the applicable specification. The requirement of the specification is waived (not revised) to agree with the existing configuration.

DEVIATION: - A deviation will be instituted when the requirements of the applicable specification is not or cannot be met by reason of design or hardware incompatibility. The specification is deviated (revised) to reflect the configuration of equipment.

There are two (2) types of waivers and deviations contained in this document:

1. Type I - Those waivers and deviations granted at the associate contractor's Home-Plant. Type I waivers and deviations are listed in this document only when the effect of the waiver or deviation results in an out-of-tolerance condition during BATC Testing per S-133-1000-0-1. Reference Sec. II, Page 5 of this document for a listing of the Associate Contractors' Documentation in which the Home-Plant waivers are contained.
2. Type II - Those waivers and deviations granted by AFBSD/STL during final assembly and test activities at BATC.

WAIVER & DEVIATION SUMMARY TYPE II

DEVIATION CLASSIFICATION

Class No.	Nomenclature	EC	AN	TCC	AGC	HPC
1	Test Support Equipment	1				
2	Test Method		2			
3	Specification Error		1			
4	Human Error					
5	Xducer Channel Problems					
6	Channel Measurement List Changes					
7	BSD/STL Direction	2	2			
8	Operational System					
9	Misc.	1				
	TOTALS	4	3			

WAIVER CLASSIFICATION

Class No.	Nomenclature	EC	AN	TCC	AGC	HPC
1	Test Support Equip.					
2	Test Method	1	1			
3	Specification Error					
4	Human Error					
5	Xducer Channel Problems	1				
6	Channel Measurement List Changes	1				
7	BSD/STL Direction					
8	Operational System					
9	Misc.					
	TOTALS	3	1			

TOTALS FOR THIS MISSILE

	WAIVERS	DEVIATIONS	TOTAL
The Boeing Company	3	4	7
Autonetics	1	5	6
Thiokol Chemical Corp.			
Aerojet General Corp.			
Hercules Powder Co.			
TOTALS	4	9	13

Number of Instrumentation Channels out of Specification Requirements 197

INDEX OF WAIVERS AND DEVIATIONS TYPE I

1 W-Waiver D-Deviation

3 Applicable Specification

2 Document which lists the waiver or deviation.

ITEM	DESCRIPTION	1	2	3
	NONE.			

INDEX OF TYPE II DEVIATIONS CONTAINED IN SECTION IV

1 DEVIATION NO.

BC-The Boeing Company
AN-Autonetics
TCC-Thiokol Chemical Corp.
AGC-Aerofet General Corp.
HPC-Hercules Powder Co.

2 Section Page No.

3 Missile Effectivity

4 Classification No. Ref. Sec. III Page 2

1	2	3	4
BC-1	1	Change instrumentation section cooling air minimum flow rate to 19.5 pounds per minute.	431 thru 434 1
BC-2	2	Premature stage separation timer runs shall be within the limits specified below: Stage I 54.2±2 Sec. Stage II 110.2±2 Sec.	431 thru 434 7
BC-3	3	Battery performance test data will not be presented as part of the missile acceptance data package.	431 thru 434 9
BC-4	4	Listed Model Specification Testing Requirements will not be performed.	431 thru 438 7
AN-1	5	Change G&C System Turn-On requirements as follows: 1. Delete Memory Solenoid Requirement 2. Delete 4.8 KC Requirement 3. IMU Electronics Temperature 85±20°F 4. IMU Helium Temperature 65±15°F 5. VM Case Temperature 70±5°F	431 thru 434 3
AN-2	6	Change number of pitch and yaw increments required as follows: Pitch from -022±62 to -691±47 Yaw from +553±43 to +415±34 On missiles where accelerometer counts are accumulated for 30 seconds, change drift limit to 0.1845 for Pitch and Yaw.	431 thru 434 2
AN-3	7	NCU Sinusoidal Test will not be performed.	431 thru 434 7
AN-4	8	The MIO Discretes Test will not be performed during Compatibility Test.	431 thru 434 7
AN-5	9	Step 4.4.2.1.6(n).3 of the Model Specification will not be performed.	431 thru 434 2

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US 4826 2000 (WAS SAC 4131B)

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VOL

NO D2-3929-4 38

SEC III

PAGE 4

INDEX OF TYPE II WAIVERS CONTAINED IN SECTION V

1 WAIVER NO.

BC-The Boeing Company
 AN-Autonetics
 TCC-Thiokol Chemical Corp.
 AGC-Aerogel General Corp.
 HPC-Hughes Powder Co.

2 Section Page No.

3 Classification No. Ref. Sec. III,
 Page 2

1	2		3
BC-5	1	A Signal Level of -78 ¹ 1 DEM to the MISTRAM Sub-system Antenna Hood Flange was not verified during Compatibility Testing.	2
BC-6	2 thru 6	Listed Measurements have readings from Compatibility Test not in accord with Specification Requirements.	5
BC-7	7	Measurement Changes List.	5
AN-6	8	Computer Voltage Output "C" Signal was not verified.	2

BC-2

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R & D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 61

PARAGRAPH NO.: 4.4.2.8.2.1

PARAGRAPH TITLE: Timer Initiation

DESCRIPTION:

Premature Stage Separation Timer Runs shall be within the limits specified below:

STAGE I

STAGE II

54.2±2Sec.

110.2±2Sec.

REASON:

The Model Specification has not been updated to reflect approved designed changes.

CHANGE STATUS:

An SCN to the Model Specification has been requested.

Boeing

STL

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VOL

NO D2-5929-431

SEC

IV

PAGE

2

BC-1

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R & D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X.

PAGE NO.: 48

PARAGRAPH NO.: 4.3.2

PARAGRAPH TITLE: Test Power Cooling

DESCRIPTION:

Change instrumentation section cooling air minimum flow rate to 19.5 pounds per minute. The specification limits are 22.5 to 25 pounds per minute.

REASON:

1

- A. The flow rate obtained provides adequate cooling for the instrumentation section. Equipment required to increase the flow rate, as determined by present measurement techniques, would be prohibitively expensive.
- B. Some doubt exists as to the validity of the flow rate values obtained. Alternate methods of measurement are being investigated.

CHANGE STATUS:

An SCN to the Model Specification will be submitted if required.

Boeing

Guaranteed

STL

R. L. Cichan

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VOL

SEC

IV

NO

PAGE

1

BC-2

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R & D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 61

PARAGRAPH NO.: 4.4.2.8.2.1

PARAGRAPH TITLE: Timer Initiation

DESCRIPTION:

Premature Stage Separation Timer Runs shall be within the limits specified below:

STAGE I

STAGE II

54.2±2Sec.

110.2±2Sec.

REASON:

The Model Specification has not been updated to reflect approved designed changes.

CHANGE STATUS:

An SCN to the Model Specification has been requested.

Boeing

STL

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US GPO 2000

BOEING

VOL

SEC

IV

NO D2-3929-431

PAGE

2

BC-3

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D8-14286-1

SPEC. OR DOC. TITLE: Model Specification - R & D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 64

PARAGRAPH NO.: 4.4.2.11

PARAGRAPH TITLE: Battery Performance Test

DESCRIPTION:

Data, required by the above paragraphs, will not be presented as part of the missile acceptance data package. The information will become available on MLIR records at the time of battery activation.

REASON:

The batteries are time limited with respect to flight certification after activation. Schedule considerations generally require activation subsequent to missile acceptance, at which time the batteries are tested per functional test (D2-5473) with limits identical to those of the Model Specification.

CHANGE STATUS:

An SCW to the Model Specification will be submitted.

Boeing

STL

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VOL

SEC IV

MODE-3923-431

PAGE 3

BC-4

DATE: June 5, 1963

MISSILE EFFECTIVITY: 431 thru 458

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R & D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

DESCRIPTION:

The following Model Specification testing requirements will not be performed:

<u>Model Spec. Para. No.</u>	<u>Para. Title</u>
4.4.2.14.7	SYSTEMS ACCURACY
4.4.2.14.8	Systems NOISE
4.4.2.14.9	CALIBRATION
4.4.2.14.10	OPERATION OF G&C ANALOG INSTRUMENTATION
4.4.2.14.11	DESTRUCT RECEIVER CALIBRATION
4.4.2.15.5	SYSTEMS ACCURACY
4.4.2.15.6	SYSTEMS LINEARITY
4.4.2.15.7	SYSTEMS NOISE
4.4.2.15.10	LINEARITY ACCELEROMETER SIMULATOR CALIBRATION
4.4.2.15.11	PRESSURE TRANSDUCER SIMULATION CALIBRATION
4.4.2.15.12	VIBRATION TRANSDUCER CALIBRATION SIMULATION.

REASON:

Model Specification requirements changed per BSD TWX
BSQAK-1 (361).

CHANGE STATUS:

An SCN to the Model Specification will be submitted. Reference
CCN 925 BSD-63-MSN-9776 dated 3 June 1963.

Boeing *Barne Shank*

STL *K. F. Eick*

7.

AM-1

DATE: June 17, 1983

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R & D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 50

PARAGRAPH NO.: 4.4.2.1

PARAGRAPH TITLE: G&C System (Turn On)

DESCRIPTION:

Change requirements of this paragraph as follows:

1. Delete Memory Solenoid requirement.
2. Delete 4.8 KC requirement.
3. IMU Electronics Temperature $85 \pm 20^{\circ}F$
4. IMU Helium Temperature $65 \pm 15^{\circ}F$
5. VM Case Temperature $70 \pm 5^{\circ}F$

REASON:

The Model Specification has not been updated to reflect approved design changes.

CHANGE STATUS:

SCN's reflecting the above changes have been submitted.

A/W

J. M. Leonard STL

K. F. E. Lichner

3

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BEING

VOL

NO D2-3989-4-1

SEC

IV

PAGE

5

AN-2

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - RAD Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 57

PARAGRAPH NO.: 4.4.2.1.11

PARAGRAPH TITLE: Angular Accelerometer Test

DESCRIPTION:

Change number of pitch and yaw increments required as follows:

Pitch from -922 \pm 62 to -691 \pm 47

Yaw from +553 \pm 43 to +415 \pm 34

On Missiles where accelerometer counts are accumulated for
30 seconds, change drift limit to 0 \pm 1845 for Pitch and Yaw.

REASON:

A change in the period of sampling changed the number of counts.

CHANGE STATUS:

An SCN to the Model Specification has been submitted.

AN

J. M. Leonard

STL

R. F. Cich

REVISED

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VOL

SEC IV

NO 20-700-402

PAGE

6

AN-3

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____ DEVIATION X

PAGE NO.: 58 PARAGRAPH NO.: 4.4.2.1.13

PARAGRAPH TITLE: NCU Sinusoidal Test

DESCRIPTION:

The tests required by this paragraph will not be performed.

REASON:

The test was eliminated since the required data can be obtained from other nozzle test. (Ref. MNCB STL-1245, dtd. November 9, 1962.)

CHANGE STATUS:

An SCM to the Model Specification has been submitted.

AN

J. L. Myland

STL

R. F. Richman

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VOL

NO D2-3929-4M

SEC IV

MOE

AN-4

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 65
(56)

PARAGRAPH NO.: 4.4.2.13.5
(4.4.2.1.7)

PARAGRAPH TITLE: Guidance & Control Subsystem Test.
(N10 Discretes Test)

DESCRIPTION:

The N10 Discretes Test per paragraph 4.4.2.1.7 will not be performed during Compatibility Test.

REASON:

This test was eliminated per BSD/STL direction
(Ref. MMCS STL - 1245, dtd 9 November, 1963).

CHANGE STATUS:

An SCM to the Model Specification has been submitted.

AN J. H. Milgrom

STL K. F. E. E. E.

REVISED _____
US ARMY 2000

BEING	VOL	NO. 22-1000-0-1
SEC. IV	PAGE	8

AN-5

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431 thru 434

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER _____

DEVIATION X

PAGE NO.: 55

PARAGRAPH NO.: 4.4.2.1.6

PARAGRAPH TITLE: Platform Accuracy Test

DESCRIPTION:

The following step per Model Specification paragraph 4.4.2.1.6(n).3., will not be performed:

4.4.2.1.6(n).3. During Mode P₁, recordings of the VM servo motor instrumentation signals shall be examined to verify the negative change of the X-VM servo motor signal as the dragmagnet reverses direction.

REASON:

The servo motors are constantly torqued during Mode P₁. Reversal of servo motor T/M signal is difficult to analyze under these conditions. Verification can be accomplished during Platform Servo Test.

CHANGE STATUS:

An SCN to the Model Specification will be submitted.

AN J. M. [Signature]

STL K. F. [Signature]

2

REVISED _____

US GPO 5000

~~SECRET~~

VOL

SEC

IV

NO D2-3529-4E

PAGE

5

MODEL XSM-80B

DOCUMENT NUMBER D2-3929-431

SECTION OR ADDENDUM NO. V

TITLE

WAIVERS

NO. OF PAGES 9
DATE June 19, 1963

PREPARED BY R. J. Gennard
APPROVED BY H. E. Morrison
APPROVED BY W. J. [unclear]
APPROVED BY [unclear]

WORK ORDER

UNIT NO.

ITEM NO.

Sub-section title page
DOCUMENTS

3 4046 0000 (NAS. 342 11/64)

32

D2-3929-4
PAGE 0

BC-5

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-1000-0-1WAIVER X

DEVIATION _____

PAGE NO.: 64
65PARAGRAPH NO.: 4.4.2.13.1
4.4.2.13.2PARAGRAPH TITLE: Test Conditions (Compatibility)
MISTRAM Subsystem (Compatibility)

DESCRIPTION:

A signal level of -78±1 dbm to the MISTRAM subsystem antenna hood flange was not verified during compatibility testing.

REASON:

Phase lock could not be maintained on Calibrate channel during compatibility testing using the BTS-216 test set. The subsystem was operated open-loop with the range MACK station and phase lock was maintained. This waiver written to allow change in test method and elimination of signal level requirement.

CHANGE STATUS:

The Model Specification will not be changed.

Boeing S.E. HansenSTL Jim Allen

2

REVISED _____

US 4800 0000

RECEIVED

VOL

SEC

V

NO D2-14286-131

PAGE

MISSILE EFFECTIVITY: 431

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-1000-0-1WAIVER X

DEVIATION _____

PAGE NO.: 65

PARAGRAPH NO.: 4.4.2.13.6

PARAGRAPH TITLE: PCM/FM Subsystem Test

DESCRIPTION:

The below listed measurements have readings from compatibility test not in accord with specification requirements.

MEAS NO.	AMBIENT		NOISE		REASON
	SPECIFIED	OBTAINED	SPECIFIED	OBTAINED	
A002A			2.0	3.88	(1)
A003A			2.0	3.65	(1)
G013D			1.5	2.50	(1)
G014D			1.5	3.00	(1)
G015D			1.5	3.50	(1)
G016D			1.5	3.50	(1)
G017D			1.5	3.00	(1)
G018D			1.5	3.00	(1)
G019D			1.5	2.00	(1)
G020D			1.5	4.00	(1)
G021D			1.5	2.50	(1)
G022D			1.5	3.50	(1)
G023D			1.5	2.50	(1)
G024D			1.5	2.00	(1)
G008E			1.5	4.15	(1)
G007E			1.5	4.03	(1)
G008E			1.5	3.57	(1)
G023E			1.5	4.90	(1)
G025E			1.5	3.69	(1)
G026E			1.5	4.21	(1)
G027E			1.5	2.25	(1)
G028E			1.5	3.55	(1)
G030E			1.5	26.00	(1)
G033E			1.5	3.84	(1)
G035E			1.5	3.93	(1)
G037E			1.5	4.09	(1)

Sht. 1 of 5.

REVISED _____

US ARMY 2000

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VOL.

NO D2-3929-431

SEC. 5

PAGE 2

MEAS NO.	AMBIENT		NOISE		REASON
	SPECIFIED	OBTAINED	SPECIFIED	OBTAINED	
G039E			1.5	4.03	(1)
G040E			1.5	3.28	(1)
G041E			1.5	3.19	(1)
G042E			1.5	3.78	(1)
G043E			1.5	4.00	(1)
G044E			1.5	4.25	(1)
G045E			1.5	3.91	(1)
G058E			1.5	4.50	(1)
G059E			1.5	4.15	(1)
G060E			1.5	4.91	(1)
G061E			1.5	3.58	(1)
G062E			1.5	3.71	(1)
G063E			1.5	3.85	(1)
G070E			1.5	4.00	(1)
G071E			1.5	3.50	(1)
G072E			1.5	5.00	(1)
G073E			1.5	2.00	(1)
G074E	48.55±2.95	43.53	1.5	5.00	(1)(11)
G075E	48.28±2.95	42.37	1.5	7.00	(1)(11)
G077E			1.5	2.50	(1)
G078E			1.5	2.00	(1)
G080E			1.5	4.05	(1)
G081E			1.5	3.75	(1)
G082E			1.5	3.94	(1)
G083E			1.5	4.10	(1)
G084E			1.5	3.91	(1)
G087E			1.5	4.27	(1)
G090E			1.5	4.07	(1)
G091E			1.5	4.40	(1)
G092E			1.5	3.60	(1)
G103E			1.5	4.09	(1)
G104E			1.5	3.91	(1)
G105E			1.5	3.95	(1)
I005E			1.5	3.91	(1)
I006E			2.0	3.15	(1)
I007E			2.0	3.69	(1)
I008E			2.6	4.10	(1)
I009E			2.6	3.44	(1)
I010E			1.5	3.19	(1)
I011E			1.5	4.19	(1)
I012E			2.0	3.53	(1)
I013E			2.0	2.55	(1)
I014E			2.6	3.56	(1)
I015E			2.6	3.73	(1)
I016E			1.5	3.19	(1)
I017E			1.5	3.86	(1)
I018E			2.0	2.79	(1)
I019E			2.0	3.30	(1)
I020E			2.6	4.03	(1)
I021E			2.6	4.00	(1)
I031E			1.5	4.24	(1)

Sht. 2 of 5

REVISED

U3 4200 2000

NOISE

VOL

SEC 5

NO D2-3929-431

PAGE 3

MEAS. NO.	AMBIENT		NOISE		REASON
	SPECIFIED	OBTAINED	SPECIFIED	OBTAINED	
I032E			1.5	4.30	(1)
I033E			1.5	4.24	(1)
I034E			1.5	4.58	(1)
I035E			1.5	3.69	(1)
I036E	20.00±8.00	None	1.5	None	(111)
I039E			1.5	4.07	(1)
I040E			1.5	3.08	(1)
I041E			1.5	3.37	(1)
I043E			1.5	2.31	(1)
S018E			1.5	3.88	(1)
S021E	69.50±2.90	73.76	1.5	4.10	(1)(11)
S022E	70.50±3.00	74.29	1.5	4.82	(1)(11)
S080E			1.5	4.15	(1)
S081E			1.5	3.91	(1)
A022H			2.6	2.70	(1)
A023H			2.6	2.75	(1)
A098H			2.6	2.73	(1)
A105H			2.0	4.27	(1)
A107H			2.0	4.03	(1)
A109H			2.0	3.60	(1)
A110H			2.6	2.70	(1)
A111H			2.6	2.70	(1)
A112H			2.0	3.65	(1)
A121H			2.6	2.78	(1)
A125H			2.0	4.13	(1)
P025H			2.6	2.75	(1)
P026H			2.6	2.78	(1)
P037H			2.0	3.40	(1)
P050H			2.0	4.20	(1)
A076P			2.0	3.55	(1)
A082P			2.0	3.69	(1)
A088P			2.0	3.76	(1)
P015P			2.0	3.58	(1)
P018P			2.0	3.86	(1)
P040P			2.0	4.80	(1)
P041P			2.0	4.80	(1)
P402P			1.5	3.78	(1)
H001P			1.5	3.00	(1)
H002P			1.5	2.00	(1)
H003P			1.5	3.50	(1)
H004P			1.5	3.50	(1)
H005P			1.5	2.50	(1)
H006P			1.5	3.50	(1)
H007P			1.5	5.50	(1)
H008P			1.5	10.00	(1)
H009P			1.5	3.00	(1)
H010P			1.5	3.50	(1)
H011P			1.5	4.00	(1)
H012P			1.5	3.00	(1)
H013P			1.5	3.00	(1)
H014P			1.5	3.00	(1)

Sht. 3 of 5.

REVISED _____

U3 4700 1000

BOEING

VOL

NO D2-3929-431

SEC

5

PAGE

4

MEAS.NO.	AMBIENT		NOISE		REASON
	SPECIFIED	OBTAINED	SPECIFIED	OBTAINED	
H015P			1.5	3.00	(1)
A001S			2.0	3.80	(1)
A002S			2.0	3.81	(1)
A003S			2.0	4.01	(1)
A005S			2.0	3.88	(1)
A006S			2.0	3.59	(1)
A007S			2.0	3.98	(1)
A008S			2.0	3.86	(1)
A011S			2.0	3.56	(1)
A012S			2.0	3.66	(1)
A013S			2.0	3.99	(1)
A059T	67.00±2.50	69.66	1.5	4.07	(1)
A060T			1.5	4.28	(1)
A144T			2.6	3.11	(1)
A145T			2.0	3.92	(1)
A146T			2.6	6.13	(1)
A152T			2.6	6.10	(1)
A154T			2.6	5.33	(1)
A155T			2.0	3.93	(1)
A156T			2.6	3.60	(1)
A159T			2.6	4.24	(1)
A160T			2.6	4.10	(1)
A180T			2.6	3.86	(1)
A183T			2.6	4.40	(1)
A202T			2.6	4.22	(1)
A206T			2.6	3.70	(1)
A249T			2.6	8.83	(1)
A253T			1.5	4.28	(1)
A254T			2.0	3.83	(1)
A255T			2.0	8.47	(1)
A256T			2.0	4.95	(1)
A258T			2.0	5.87	(1)
A259T			2.0	4.83	(1)
A260T			2.0	12.03	(1)
A263T			2.0	4.26	(1)
A266T			2.6	4.30	(1)
A267T			2.0	4.26	(1)
A268T			2.6	4.24	(1)
A279T			2.6	3.85	(1)
A280T			2.6	3.68	(1)
A281T			2.6	3.89	(1)
A282T			2.6	4.03	(1)
A283T			2.6	3.91	(1)
A284T			2.6	4.30	(1)
A285T			2.0	3.82	(1)
A286T			2.0	3.95	(1)
A291T			2.0	4.22	(1)
A296T			2.6	4.19	(1)
A297T			2.6	4.62	(1)
A306T			2.0	3.83	(1)

Sht. 4 of 5.

REVISED _____

U3 4289 2000

BOEING

VOL

NO D2-3929-431

SEC

5

PAGE

5

MEAS. NO.	AMBIENT		NOISE		REASON
	SPECIFIED	OBTAINED	SPECIFIED	OBTAINED	
A312T			2.0	3.69	(1)
A320T			2.6	5.01	(1)
A336T			2.6	4.69	(1)
A337T			2.0	3.96	(1)
A338T			2.6	4.71	(1)
A341T			2.0	3.88	(1)
P009T			2.0	3.51	(1)
P018T			2.0	4.07	(1)
P025T			2.6	4.13	(1)
P034T			2.6	4.22	(1)
P049T			2.0	3.93	(1)
P050T			2.0	4.21	(1)
P069T			2.6	3.82	(1)
P094T			2.0	4.21	(1)
P113T			2.6	3.76	(1)
P006X			1.5	3.70	(1)
P007X	3.14±12.86	None	1.5	None	(iii)
P008X			1.5	3.90	(1)
P009X			1.5	4.15	(1)

REASONS:

- (i) A portion of the noise on these channels is due to operation of the nozzle control units on ground power. Experience from previous flights shows that, with the nozzle control units operating on battery power, this noise is reduced and does not effect analysis of flight data.
- (ii) The variation from specified ambient is outside of specified tolerance but does not imply a loss of confidence in the flight data expected from this channel.
- (iii) Data on these channels blanked out by the transmission of computer words.

Boeing *J. E. Brown*

STL *[Signature]*

Sht. 5 of 5.

BC-7

DATE: June 18, 1963

MISSILE EFFECTIVITY: 431

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-1000-0-1

WAIVER X

DEVIATION _____

DESCRIPTION:

The measurement list has been changed as follows:

<u>MEAS. NO.</u>	<u>DESCRIPTION OF CHANGE</u>
R015A	Deleted
R016A	Deleted
R017A	Deleted
R018A	Deleted
R019A	Deleted
R020A	Deleted
R021A	Deleted
R063E	Deleted
A097V	Deleted
R002V	Deleted
R003V	Deleted
R048X	Deleted
R049X	Deleted
R050X	Deleted
AL79T	Deleted

REASON:

This waiver written to reconcile differences between
Model Specification and Test Directive Part "B".

CHANGE STATUS:

The Model Specification will not be changed.

Boeing S. E. H. [Signature]

STL [Signature]

AN-6

DATE: June 17, 1963

MISSILE EFFECTIVITY: 431

SPEC. OR DOC. NO.: D2-14286-1

SPEC. OR DOC. TITLE: Model Specification - R&D Prototypes
For Wing II Missiles, S-133-2000-Q-1

WAIVER X

DEVIATION

PAGE NO.: 52

PARAGRAPH NO.: 4.4.2.1.1

PARAGRAPH TITLE: Platform Erection and Alignment

DESCRIPTION:

The Computer voltage output "C" signal was not verified as indicating a negative change corresponding to the yaw platform torque motor T/M signal positive change when the platform reaches and is held against the -20 degree yaw limit stop.

REASON:

Assigned T/M channel blanked out by computer word. This waiver written to prevent delay in compilation of missile acceptance package.

CHANGE STATUS:

The Model Specification will not be changed.

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UN 2000 (WAF MAC 41210)

BOEING

VOL

SEC. V

NO D2-3929-431

PAGE 8

MODEL XSM-80B

DOCUMENT NUMBER D2-3929-431

SECTION OR ADDENDUM NO. VI

TITLE

SHORTAGES, TRAVELERS &
INCOMPLETE ITEMS

NO. OF PAGES 4
DATE June 19, 1963

PREPARED BY L. J. [Signature]

APPROVED BY S. E. [Signature]

APPROVED BY [Signature]

APPROVED BY [Signature]

WORK ORDER

UNIT NO.

ITEM NO.

Sub-section title page
DOCUMENTS

D2-3929-431
PAGE 0

146 0000 (WAS 94C 1142A)

SHORTAGE ITEMS

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>NOMENCLATURE</u>	<u>CONTRACTOR</u>	<u>REF.</u>
1.	Mark 11	Re-entry Vehicle	Avco	.
2.	25-25173-8	Battery Tray Ass'y.	Boeing	.
3.	25-15799-25	Battery Command Distrust	Boeing	.

- Will be installed at the Launch Area as evidenced by the Missile End-Item Records Package.

REVISED _____

US 4860 3080 (WAS SAC 41310)

BEING

VOL.

NO D2-3929-4 31

SEC. VT

PAGE 1

TRAVELER ITEMS

<u>ITEM NO.</u>	<u>USER NO.</u>	<u>JOB NO.</u>	<u>NOMENCLATURE</u>
1.		40016	Transducer Cover Removal Verification
2.		40104	Time & Cycle
3.		45206	Cork Sample
4.		40100	Total Order Index
5.	U094819	45104	Trim 45 Sec. Fed. Ramp
6.		40108	Acceptance & Traveler M&IR

NOTE: All incomplete items which travel to the Launch Area will be completed prior to Missile Launch or will be listed as incomplete items on the Weapon System Test Release Forms.

INCOMPLETE ITEMS

<u>ITEM #</u>	<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>JOB NO.</u>
1.	21-50120-9530	Missile Countdown	40900
2.	25-25183-8	Battery Activation	43002
3.	25-19799-25	Battery Activation	43003

REVISED _____

U3 4889 2000 (WAS SAC 41310)

BOEING

VOL.

NO D2-3929-4 B1

SEC.

VI

PAGE

3

MODEL XSM-80B

DOCUMENT NUMBER D2-3929-

SECTION OR ADDENDUM NO. VII

TITLE

EQUIPMENT IDENTIFICATION

NO. OF PAGES 18
DATE June 19, 1963

PREPARED BY R. Hemmestad

APPROVED BY R. E. Maxrinn

APPROVED BY Walter E. Guie

APPROVED BY Walter E. Guie

WORK ORDER

UNIT NO.

ITEM NO.

Sub-section title page
DOCUMENTS

046 0000 (WAS SAC 11/74)

D2-3929- 431

PAGE 0

45

SECTION VII
EQUIPMENT IDENTIFICATION

This section contains the following:

- (A) "The Missile Configuration Index" - which lists the major components and systems of the missile by missile section, part number, nomenclature, serial number, manufacturer and the associate contractor furnishing the item of hardware.
- (B) "Drawing Indices" - Five drawing indices are contained in this section (one for each associate contractor) and list the following.
 - (1) The Boeing Company "Drawing Index" is in tree form and lists the drawing number and nomenclature of all drawings required to complete the final missile assembly.
 - (2) The Autonetics "Drawing Breakdown" is in tree form and lists the drawing number, model number, and serial number for components of the G & C System.
 - (3) The drawing indices for the Thiokol Chemical Corp., the Aerojet General Corp., and the Hercules Powder Co., list the drawing number, nomenclature, part number, and serial number for components of the first, second, and third stage motors.

The missile configuration listed in this document (D2-3929) is the configuration of the missile at the time of final missile acceptance by AFSSD. Any change of components or the configuration of components which occurs after missile acceptance will not be reflected in this document. Refer to Document D2-3894- (applicable missile No.) for the fly-away configuration of this missile. D2-3894 contains a detail listing of Boeing furnished missile parts received at BATC and reflects all changes incorporated at BATC. Autonetics, Thiokol Chemical Corp., Aerojet General Corp., and Hercules Powder Co. furnished components are listed in D2-3894 at the level reflected in the "Missile Configuration Index" incorporated in this document (D2-3929). D2-3894 is normally released for distribution ten days after the missile firing.

REVISED _____

U3 4388 2000 (WAS SAC 41310)

BOEING

VOL.

NO

D2-3929-431

SRC. VII

PAGE

1

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
41	Mark 11	Re-Entry Vehicle		**	Avco	Avco

MISSILE CONFIGURATION INDEX FTH 431

Shortage Items (Installed in L/A.)

47
 REVEREND _____
 127 4708 2004

NO. 08-3929-432 SEC. VII PAGE 2

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
42	85007-106-71	Guidance & Control Set	NP10H	#10	Autonetics	Autonetics
42	7071-300001	Guidance & Control Body Section	MD-3C	0000013	Autonetics	Autonetics
42	65632-101-51	Inertial Guidance Set	NP10H	AO06D	Autonetics	Autonetics
42	61037-305-11	Digital Data Converter (Encoder)	D20A	EYD0040	Autonetics	Autonetics
42	65282-505-21	Analog Signal Conditioner	SE2F	AO08	Autonetics	Autonetics
42	1990011	Primary Battery Power (G&C)	SE12G	AAU9041	Cooke	Autonetics
42	52080-507	Ordinance Switch	P86A	DEH0008	Autonetics	Autonetics
42	65958-604	Battery Cover	SE137A	AO39	Autonetics	Autonetics

MISSILE CONFIGURATION INDEX FTM 431

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
43	25-15718-41	Instrumentation Section Assembly	NA	M431	Boeing Co.	Boeing Co.
43	25-25173-8	Battery Tray Assembly	NA	*	Boeing Co.	Boeing Co.
43	25-15799-25	Battery Command Destruct	NA	*	Boeing Co.	Boeing Co.
43	25-15850-9	Telemetry Antenna, Assy. of	NA	M425-3	Boeing Co.	Boeing Co.
43	25-15850-9	Telemetry Antenna, Assy. of	NA	M425-1	Boeing Co.	Boeing Co.
43	25-15850-9	Telemetry Antenna, Assy. of	NA	M415-1	Boeing Co.	Boeing Co.
43	25-15837-5	Command Destruct Antenna	NA	M435-1	Boeing Co.	Boeing Co.
43	25-15837-5	Command Destruct Antenna	NA	M435-2	Boeing Co.	Boeing Co.
43	25-15837-5	Command Destruct Antenna	NA	M435-3	Boeing Co.	Boeing Co.
43	10-20402-40	R. F. Section	NA	565	United Electrodynamics	Boeing Co.
43	10-20409-0	Triplexer	NA	1050	Allen Bradley Co.	Boeing Co.
43	21-50031-4	Multiplexer-Programmer, Assy. of	NA	0001	Radiation, Inc.	Boeing Co.
43	21-50031-7	Multiplexer, Assy. of	NA	M431	Radiation, Inc.	Boeing Co.
43	10-20459-2	D. C. Signal Amplifier	NA	123	Avion, Inc.	Boeing Co.
43	10-20428-2	Command Destruct Receiver	NA	0087	King Electric	Boeing Co.
43	10-20428-2	Command Destruct Receiver	NA	0097	King Electric	Boeing Co.
43	10-20410-0	Voltage Regulator-Transducer Pwr.	NA	0072	Electro Development	Boeing Co.
43	10-20420-7	Switch Transfer Test & Calibrate	NA	0139	United Electrodynamics	Boeing Co.
43	10-20420-8	Switch-Instr. Pwr. Trans.	NA	0132	United Electrodynamics	Boeing Co.
43	10-20420-9	Switch-Command Destruct Pwr.	NA	0136	United Electrodynamics	Boeing Co.
43	10-20483-1	Umbilical Receptical	NA	*	Ampenol	Boeing Co.
43	10-20439-7	Cartridge Assembly	NA	*		Boeing Co.
43	10-20439-7	Cartridge Assembly	NA	*		Boeing Co.
43	10-20439-8	Cooling Valve	NA	*		Boeing Co.
43	10-20439-8	Cooling Valve	NA	*		Boeing Co.
43	25-25493-2	Mistram Tray Assembly	NA	M431	Boeing Co.	Boeing Co.
43	25-34555-6	Matching Unit	NA	M431	Boeing Co.	Boeing Co.
43	25-27129-17	R&D Raceway Cap	NA	A235	Avion, Inc.	Boeing Co.
43	10-20478-8	Thermocouple Reference Junction Assy.	NA	A207	Avion, Inc.	Boeing Co.
43	10-20478-8	Thermocouple Reference Junction Assy.	NA	11198	Statham Instruments	Boeing Co.
43	10-20454-5	Linear Accelerometer	NA	11843	Statham Instruments	Boeing Co.
43	10-20454-5	Linear Accelerometer	NA	11292	Statham Instruments	Boeing Co.
43	10-20454-6	Linear Accelerometer	NA	0168	Electro Development	Boeing Co.
43	10-20476-0	Switch Staging	NA	M431	Boeing Co.	Boeing Co.
43	25-16462-8	Event Marker	NA	471	United Electrodynamics	Boeing Co.
43	10-20401-1	Event Marker	NA	472	United Electrodynamics	Boeing Co.
43	10-20401-1	Event Marker	NA	473	United Electrodynamics	Boeing Co.
43	10-20401-1	Event Marker	NA	474	United Electrodynamics	Boeing Co.
43	10-20403-7	FM/FM Telemetry	NA	0577		Boeing Co.
43	10-20403-8	FM/FM Telemetry	NA	0669		Boeing Co.

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
43	10-20403-8	FM/FM Telemetry	NA	0589		Boeing Co.
43	10-20408-9	FM/FM Telemetry	NA	0591		Boeing Co.
43	25-25518-13	Mistram Antenna Assy. Instr. Sec.	NA	M431-1		Boeing Co.
43	25-25518-13	Mistram Antenna Assy. Instr. Sec.	NA	M431-2		Boeing Co.

MISSILE CONFIGURATION INDEX FTM 431

REVISED

07 4000 2000

SEC. VII PAGE 5

NO D2-3900-431

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
44	25-25874-172	R&D Raceway Cover	NA	*	Boeing Co.	Boeing Co.
44	25-30103-60	Operational Raceway Cover	NA	*	Boeing Co.	Boeing Co.
44	25-31024-4	Operational Raceway Cap	NA	*	Boeing Co.	Boeing Co.
44	01A00065-005	Rocket Motor Assembly	XM-57	0030040	Hercules Powder Co.	Hercules
44	01A00386-005	Case Grain Loaded			Hercules Powder Co.	Hercules
44	01A00768-010	Top Nozzle Assembly (Port #1 & 3)			Hercules Powder Co.	Hercules
44	01A00768-009	Top Nozzle Assembly (Port #2 & 4)			Hercules Powder Co.	Hercules
44		Nozzle #1		1398	Hercules Powder Co.	Hercules
44		Nozzle #2		1303	Hercules Powder Co.	Hercules
44		Nozzle #3		1304	Hercules Powder Co.	Hercules
44		Nozzle #4		1305	Hercules Powder Co.	Hercules
44	01A00560-003	Igniter Assy.		HPC0694	Hercules Powder Co.	Hercules
44	KR80000-06	Igniter S&A Device		OB10611	Bulova Watch Co.	Hercules
44	01A00676	TT Ordnance Installation			Hercules Powder Co.	Hercules
44	7300-5	TT Arm/Disarm Switch	P79D	6194	Electro-Actuator Corp.	Hercules
44	51250-507	Nozzle Control Unit	P76D	DEZ0008	Autonetics	Autonetics
44	200-639-1200	G&C Cable, 3rd Stage		009	Amphenol	Autonetics

MISSILE CONFIGURATION INDEX FTM 431

REVISED

57 4308 2000

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VOL

SEC VII

NO D2-3929-111

PAGE 6

REVISED

US ARMY 2000

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
45	25-23207-31	Interstage Assy. Insulated	NA		Boeing Co.	Boeing Co.
45	10-20451-5	Detonator Assy. of	NA		Universal Match Co.	Boeing Co.
45	10-20451-1	Linear Explosive	NA		Universal Match Co.	Boeing Co.
45	10-20451-3	Linear Explosive Assy.	NA		Universal Match Co.	Boeing Co.
45	10-20870-21	Linear Explosive Assy.	NA		Universal Match Co.	Boeing Co.
45	10-20870-21	Linear Explosive Assy.	NA		Universal Match Co.	Boeing Co.
45	10-20870-21	Linear Explosive Assy.	NA		Universal Match Co.	Boeing Co.
45	10-20870-18	Booster-Explosive	NA		Universal Match Co.	Boeing Co.
45	10-20870-30	Booster Time Delay	NA		Universal Match Co.	Boeing Co.
45	10-20870-30	Booster Time Delay	NA		Universal Match Co.	Boeing Co.
45	25-25218-15	Safe & Arm Mechanism Assy.	NA		Universal Match Co.	Boeing Co.
45	21-50031-5	Control Box, Assy. of	NA		Boeing Co.	Boeing Co.
45	21-50031-43	Auxiliary Box, Assy. of	NA	0063	Boeing Co.	Boeing Co.
45	21-50031-44	Auxiliary Box, Assy. of	NA	0001	Boeing Co.	Boeing Co.
45	21-50031-45	Auxiliary Box, Assy. of	NA	0001	Boeing Co.	Boeing Co.
45	25-34553-5	Matching Unit	NA	M431	Boeing Co.	Boeing Co.
45	25-25992-7	R&D Raceway Cap Fwd.	NA		Boeing Co.	Boeing Co.
45	25-32747-8	Beam and Cover Assy.	NA		Boeing Co.	Boeing Co.
45	25-26851-17	R&D Raceway Cap Aft.	NA		Boeing Co.	Boeing Co.
45	25-30102-802	Operational Raceway Cover Aft.	NA		Boeing Co.	Boeing Co.
45	10-20478-8	Thermocouple Reference Junction Assy.	NA	A240	Avien, Inc.	Boeing Co.
45	10-20478-9	Thermocouple Reference Junction Assy.	NA	0066	Avien, Inc.	Boeing Co.
45	10-20436-5	Arm & Disarm Mechanism	NA	0054	Universal Match	Boeing Co.
45	51325-507	Angular Accelerometer	P75D	DEJ0007	Autonetics	Autonetics

MISSILE CONFIGURATION INDEX FTM 431

SEC VII

PAGE 7

NO D2-789-431

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
46	10-20987-9	Interval Timer	NA	*	Boeing Co.	Boeing Co.
46	25-25874-165	RD Raceway Cover	NA	*	Boeing Co.	Boeing Co.
46	25-25874-166	RDC Raceway Cover	NA	*	Boeing Co.	Boeing Co.
46	25-30101-126	Operational Raceway Cover	NA	*	Boeing Co.	Boeing Co.
46	25-30101-802	Operational Raceway Cover	NA	*	Boeing Co.	Boeing Co.
46	10-20942-3	Battery, Interstage	NA	*	Boeing Co.	Boeing Co.
46	367799-9	Rocket Motor Assembly	NA	*	Boeing Co.	Boeing Co.
45	359938	Closure Final Machine	XN-56	0020042	Telecomputing Corp.	Aerojet
46	366983-9	Nozzle #1		633147	Aerojet	Aerojet
46	366983-10	Nozzle #2		633176	Bendix Corp.	Aerojet
46	366983-9	Nozzle #3		633148	Bendix Corp.	Aerojet
46	366983-10	Nozzle #4		633177	Bendix Corp.	Aerojet
46	365580	Igniter Basket Assy.		62-8-BP-II	Aerojet	Aerojet
46	KR80000-06	Igniter S&A		0B10251	Bulova Watch Co.	Aerojet
46	365224-9	Inst. Assembly 2nd Stage		DEX0003	Aerojet	Aerojet
46	51175-507	Nozzle Control Unit	P78D	010	Autonetics	Autonetics
46	200-639-1100	G&C Cable, 2nd Stage	P75D	AAV9068	Amphenol	Autonetics
46	1990012	NCU Battery Power Supply	SEL3G	617619	Autonetics	Autonetics
46	359764-259	All Ordnance Destruct System			Aerojet	Aerojet

REVISED

SEP 1964

SECRET

VOL

SEC VII

NO D2-3929-431

PAGE 8

MISSILE CONFIGURATION INDEX FTM 431

SECT.	PART NO	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
47	25-31011-11	Interstage Assy. Insulated	NA		Boeing Co.	Boeing Co.
47	10-20942-3	Battery Interstage	NA		Telecomputing Corp.	Boeing Co.
47	10-20451-5	Detonator	NA		Universal Match	Boeing Co.
47	10-20451-4	Linear Explosive	NA		Universal Match	Boeing Co.
47	10-20451-2	Linear Explosive	NA		Universal Match	Boeing Co.
47	10-20870-18	Booster Explosive	NA		Universal Match	Boeing Co.
47	10-20870-20	Linear Explosive Assy.	NA		Universal Match	Boeing Co.
47	10-20870-20	Linear Explosive Assy.	NA		Universal Match	Boeing Co.
47	10-20870-20	Linear Explosive Assy.	NA		Universal Match	Boeing Co.
47	10-20870-26	Booster Time Delay	NA		Universal Match	Boeing Co.
47	10-20870-26	Booster Time Delay	NA		Universal Match	Boeing Co.
47	25-25218-16	Safe & Arm Mechanism Assy.	NA		Boeing Co.	Boeing Co.
47	25-27404-6	Shield Booster	NA		Boeing Co.	Boeing Co.
47	21-50031-6	Control Box, Assy. of	NA	M431	Boeing Co.	Boeing Co.
47	21-50031-18	Auxiliary Box, Assy. of	NA	0001	Boeing Co.	Boeing Co.
47	21-50031-19	Auxiliary Box, Assy. of	NA	0001	Boeing Co.	Boeing Co.
47	21-50031-20	Auxiliary Box, Assy. of	NA	0001	Boeing Co.	Boeing Co.
47	25-34554-6	Matching Unit	NA	M431	Boeing Co.	Boeing Co.
47	25-25991-4	R2D Raceway Cap Fwd.	NA		Boeing Co.	Boeing Co.
47	25-32748-8	Beam and Cover Assy.	NA		Boeing Co.	Boeing Co.
47	25-30100-6	Operational Raceway Cover Aft.	NA		Boeing Co.	Boeing Co.
47	25-26070-12	R2D Raceway Cap Aft.	NA		Boeing Co.	Boeing Co.
47	10-20478-8	Thermocouple Reference Junction Assy.	NA	0068	Avien, Inc.	Boeing Co.
47	10-20478-8	Thermocouple Reference Junction Assy.	NA	A210	Avien, Inc.	Boeing Co.
47	10-20436-5	Arm & Disarm Mechanism Assy.	NA	0040	Universal Match	Boeing Co.
47	10-20987-8	Interval Timer	NA		Universal Match	Boeing Co.

MISSILE CONFIGURATION INDEX FTA 431

REVISED

03 4266 2080

BOEING

SEC

VII

NO 02-3929-431

PAGE

9

SECT.	PART NO	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONTR.
48	25-25874-196	R&D Raceway Cover, Aft.	NA	*	Boeing Co.	Boeing Co.
48	25-25874-169	R&D Raceway Cover, Ctr.	NA	*	Boeing Co.	Boeing Co.
48	25-25874-169	R&D Raceway Cover, Ctr.	NA	*	Boeing Co.	Boeing Co.
48	25-25874-195	R&D Raceway Cover, Fwd.	NA	*	Boeing Co.	Boeing Co.
48	25-25874-173	Operational Raceway Cover, Aft.	NA	*	Boeing Co.	Boeing Co.
48	25-25874-174	Operational Raceway Cover, Ctr.	NA	*	Boeing Co.	Boeing Co.
48	25-25874-174	Operational Raceway Cover, Ctr.	NA	*	Boeing Co.	Boeing Co.
48	25-35416-35	Operational Raceway Cover, Fwd.	NA	*	Boeing Co.	Boeing Co.
48	1U-32400-38	Rocket Motor Assembly	M-55	0010041	Thiokol	Thiokol
48	1U-32953	Case & Closure Assembly		.1015	Thiokol	Thiokol
48	1U-32200-10	Nozzle #1		0021353	Arde-Portland, Inc.	Thiokol
48	1U-32200-11	Nozzle #2		0021354	Arde-Portland, Inc.	Thiokol
48	1U-32200-10	Nozzle #3		0021356	Arde-Portland, Inc.	Thiokol
48	1U-32200-11	Nozzle #4		0021357	Arde-Portland, Inc.	Thiokol
48	1U31510-13	Pyrogen Assembly		0000356	Thiokol	Thiokol
48	KR80000-06	S&A Igniter		0B10575	Bulova Watch Co.	Thiokol
48	51100-507	Nozzle Control Unit	P77D	DEU0006	Autonetics	Autonetics
48	200-752-1000	C&C Cable, 1st Stage	P74E	019	Amphenol	Autonetics
48	1U32299-18	Motor Assembly		.1015	Thiokol	Thiokol
48	1990012	MCU Battery Power Supply	SEL3G	AAV9067	Cooke	Autonetics
48	1U-32222-06	Instrumentation Assy.			Thiokol	Thiokol

MISSILE CONFIGURATION INDEX PTH 431

REVISED

13 4286 2000

BOEING

VOL.
PAGE VII

NO D2-3924-421
PAGE 10

SECT.	PART NO.	NOMENCLATURE	MODEL	SERIAL NO.	MANUFACTURER	CONT.
49	25-33938-96	Sdirt Assy. Insulated	NA	M131	Boeing Co.	Boeing
49	25-31463-800	25-31463-800	NA	*	Boeing Co.	Boeing
49	25-31463-800	Operational Airway Cap	NA	*	Boeing Co.	Boeing
49	10-20477-9120	Thermocouple Wire Assy.	NA	0941	Aero Research	Boeing
49	10-20477-9120	Thermocouple Wire Assy.	NA	0820	Aero Research	Boeing
49	10-20477-9120	Thermocouple Wire Assy.	NA	0874	Aero Research	Boeing
49	10-20477-9120	Thermocouple Wire Assy.	NA	0881	Aero Research	Boeing
49	10-20477-9120	Thermocouple Wire Assy.	NA	0903	Aero Research	Boeing
49	10-20477-9120	Thermocouple Wire Assy.	NA	0918	Aero Research	Boeing

REVISED _____

U3 4286 2000

SECRET

VOL.

SEC.

VII

NO D2-3929-431

PAGE

11

MISSILE SECTION
MS

MISSILE SECTION
41

MISSILE SECTION
42

MISSILE SECTION
43

CABLE INSTL
LIGHT WEIGHT G & C
25-32399

CABLE ASSEMBLY
GUIDANCE & CONTROL
(GFE)

ELEC. CABLE INSTL
R & D FINAL ASSY
25-36619

DOWNSTAGE EQUIP
INSTALLATION ADJUS
25-33016

R&D STREAMER INSTL
OR SAFETY PIKE
25-24065

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

RE ENTRY VEHICLE
INSTALLATION
25-18195

RE ENTRY VEHICLE
ASSEMBLY
(GFE)

GUIDANCE & CONTROL
INSTL-SECTION 42
25-18128

GUIDANCE & CONTROL
SECTION ASSEMBLY
(GFE)

INSTRUMENTATION
INSTL SECTION 43
25-16405

COOLING VALVE
INSTALLATION
25-17672

BATTERY INSTL
SECTION 43
25-32440

ELECTROLYTE INGS
INSTL BATTERIES
25-19501

BATTERY INSTL
SECTION 43
25-32440

1

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

PISTOL FASTENERS ANALYS
JOINT ASSEMBLY
25-37243

SECTION 43
ASSEMBLY
25-15714

C&D BATTERY
ASSEMBLY
25-15749

C&D BATTERY
TRAY ASSEMBLY
25-25173

DRAWING INDEX FLIGHT TEST MISSILE 431

FINAL MISSILE ASSEMBLY
AMR-FYM
21-50120

MISSILE SECTION
44

MISSILE SECTION
45

STAGE III ASSY
HERO POWDER CG
(GFE)

NCU INSTALLATION
SECTION 44
25-18127

NCU
ASSEMBLY
(GFE)

DEFLECTOR INSTL
BASE HEATING
25-36646

INSULATION
INSTALLATION
25-35640

VIBRATION INSULATION
INSTALLATION
25-3572

INTERSTAGE INSTL
INTERSTAGE 2-3
25-23205

JOINT SEVERANCE
ORDNANCE INSTL
25-22997

INSUL R&D SUPPORT
STRUCTURES FRAME
25-27752

G&C INSULATION
FRAME ASSEMBLY
25-23221

ANGULAR LACCEL
INSTALLATION
25-33261

G&C GAGE PERMETER
ASSEMBLY
(GFE)

R&D GAGE INSTL
R&D SECTION 45
25-37618

R&D GUIDE
SUPPORT ASSY
25-27592

G&C GUIDE
SUPPORT ASSY,
25-24131

R&D SUPPORT
STRUCTURE INST
25-23225

G&C SUPPORT
STRUCTURE INST
25-23219

R&D CABLE
SUPPORT ASSY
26-10922

INSUL R&D SUPP
STRUCTURE STP
25-27728

INSUL DISCONN
SUPP STRUCTURE
25-24129

R&D COVER INSTL
R&D SECTION 45
25-37618

R&D COVER INSTL
R&D SECTION 45
25-25872

2

FINAL MISSILE ASSEMBLY
AMR-FYM
21-50120

ELEC CABLE INST
R&D SECTION 45
21-26618

MISSILE SECTION
MS

MISSILE SECTION
41

MISSILE SECTION
42

MISSILE SECTION
43

CABLE INSTL
LIGHT WEIGHT G B C
25-32399

CABLE ASSEMBLY
GUIDANCE & CONTROL
(GFE)

ELEC. CABLE INSTL
R&D FINAL ASSY
25-36619

DOWNSTAGE EQUIP
INSTALLATION AGGS
25-33016

R&D STREAMER INSTL
SRA SAFETY PINS
25-25366

INSUL FASTENERS BASSY
JOINT ASSEMBLY
25-37243

APPLY COMP. OF 25
PINS TO 25-37243

RACEWAY
INSTALLATION
25-37243

MARKING
INSTALLATION
25-37243

RE-ENTRY VEHICLE
INSTALLATION
25-18195

RE-ENTRY VEHICLE
ASSEMBLY
(GFE)

GUIDANCE & CONTROL
INSTL - SECTION 42
25-18128

GUIDANCE & CONTROL
SECTION ASSEMBLY
(GFE)

INSTRUMENTATION
INSTL - SECTION 43
25-18405

COOLING VALVE
INSTALLATION
25-17672

BATTERY INSTL
SECTION 43
25-32440

ELECTROLYTE INS
INSTL BATTERIES
25-19501

R/W CABLE INSTL
SECTION 43
25-37243

1

CABLE INSTALLATION
ELEC. R&D RACEWAY
25-36619

R&D CABLE WIRING

INSULATION
INSTALLATION
25-29267

SECTION 43
ASSEMBLY
25-15716

C&D BATTERY
ASSEMBLY
25-15799

C&D BATTERY
TRAY ASSEMBLY
25-25173

DRAWING INDEX FLIGHT TEST MISSILE 451

MISSILE SECTION
44

FINAL MISSILE ASSEMBLY
AMR-FTM
21-50120

MISSILE SECTION
45

STAGE III ASSY
HERC POWDER CO
(GFE)

NCU INSTALLATION
SECTION 44
25-18127

NCU
ASSEMBLY
(GFE)

DEFLECTOR INSTL
BASE HEATING
25-36646

INSULATION
INSTALLATION
25-35640

VIBR TRANSDUCER
INSTALLATION
25-35720

R/W COVER INSTL
3 RD STAGE ENGINE
25-25873

INTERSTAGE INSTL
INTERSTAGE 2-3
25-23206

JOINT SEVERANCE
ORDNANCE INSTL
25-22897

INSUL R&D SUPPORT
STRUCTURES FRAME
25-27762

G&C INSULATION
FRAME ASSEMBLY
25-23221

ANGULAR ACCEL
INSTALLATION
25-33281

G&C ACCELEROMETER
ASSEMBLY
(GFE)

ELEC CABLE INSTL
R & D SECTION 45
25-36618

R/W COVER INSTL
3 RD STAGE ENGINE
25-25873

R&D GUIDE
SUPPORT ASSY
25-27582

G&C GUIDE
SUPPORT ASSY
25-24131

R&D SUPPORT
STRUCTURE
25-23225

G&C SUPPORT
STRUCTURE II
25-23219

R&D CABLE
SUPPORT ASSY
26-10922

INSUL R&D S
STRUCTURE
25-27728

INSUL DISCON
SUPT STRUCTURE
25-24129

R/W COVER INSTL
2ND STAGE ENGINE
25-25873

R&D SUBSYSTEM ASSY
AMR-FTM
21-50122

2

COOLING VALVE
PART & LMB PLUG
10-20433

ELECTROLYTE KIT
25-19511

INTERSTAGE ASSY
INTERSTAGE 2-3
25-23207

2-3 INTERSTAGE
INSTR EQUIP INSTL
25-18141

ELEC CABLE
R & D SECTION
25-36618

SECTION
45

MISSILE SECTION
46

MISSILE SECTION
47

R & D GUIDE
SUPPORT ASSY
25-27582

G & C GUIDE
SUPPORT ASSY
25-24131

R & D SUPPORT
STRUCTURE INSTL
25-23225

G & C SUPPORT
STRUCTURE INSTL
25-23219

R & D CABLE
SUPPORT ASSY
26-10922

INSUL R & D SUPPORT
STRUCTURE STRUT
25-27728

INSUL DISCONNECT
SUPT STRUCTURE STRUT
25-24129

R/W COVER INSTL
2ND STAGE ENGINE
25-25872

STAGE II ASSEMBLY
AEROJET GEN CORP
(GFE)

NCU INSTALLATION
SECTION 46
25-18125

NCU
ASSEMBLY
(GFE)

HEAT DEFLECTOR
INSTALLATION
25-36645

INSULATION INSTL
FWD & AFT "Y" JOINTS
26-7890

R/W COVER INSTL
2ND STAGE ENGINE
25-25872

INTERSTAGE INSTL
INTERSTAGE 1-2
25-23234

JOINT SEVERANCE
ORDNANCE INSTL
25-22897

R & D INSULATED
FRAME ASSEMBLY
25-23228

G & C INSULATED
FRAME ASSEMBLY
25-23222

ELEC CABLE INSTL
R & D SECTION 47
25-36617

R & D CABLE
SUPPORT ASSEMBLY
26-10922

R/W COVER INSTL
2ND STAGE ENGINE
25-25872

R & D INSULATED
GUIDE SUPPORT ASSY
25-27039

G & C GUIDE
SUPPORT ASSEMBLY
25-24135

R & D SUPPORT
STRUCTURE INSTL
25-23226

G & C SUPPORT
STRUCTURE INSTL
25-23220

R & D STRUT SUPPORT
STRUCTURE INSTL
25-24136

G & C STRUT SUPPORT
STRUCTURE INSTL
25-24133

G & C GUIDE
DISCONNECT INSTL
25-39649

R/W COVER INSTL
1ST STAGE ENGINE
25-25871

3

ELEC CABLE INSTL
R & D SECTION 45
25-36618

AUTOMATIC
BATTERY - CTU
10-20942

PREMATURE SEPARA-
TION TIMER SWITCH
10-20967

INTERSTAGE ASSY
INTERSTAGE 1-2
25-3100

1-2 INTERSTAGE
INSTR EQUIP INSTL
25-18140

ELEC CABLE INSTL
R & D SECTION 47
25-36617

AUTOMATIC
BATTERY - CTU
10-20942

PREMATURE SEPARA-
TION TIMER SWITCH
10-20967

MISSILE SECTION
47

ERSTAGE INSTL
ERSTAGE 1-2
25284

NT SEVERANCE
NANCE INSTL
22897

D INSULATED
ME ASSEMBLY
23228

C INSULATED
ME ASSEMBLY
23222

C CABLE INSTL
D SECTION 47
36617

D CABLE
PORT ASSEMBLY
10922

COVER INSTL
1ST STAGE ENGINE
25872

R&D INSULATED
GUIDE SUPPORT ASSY
25-27039

G&C GUIDE
SUPPORT ASSEMBLY
25-24135

R&D SUPPORT
STRUCTURE INSTL
25-23226

G&C SUPPORT
STRUCTURE INSTL
25-23220

R&D STRUT SUPPORT
STRUCTURE INSTL
25-24136

G&C STRUT SUPPORT
STRUCTURE INSTL
25-24133

G&C GUIDE
DISCONNECT INSTL
25-39649

R/W COVER INSTL
1ST STAGE ENGINE
25-25871

MISSILE SECTION
48

STAGE 1 ASSEMBLY
THIOL CHEM CORP
(GFE)

NCU INSTALLATION
SECTION 48
25-18124

NCU
ASSEMBLY
(GFE)

INSULATION
INSTALLATION
25-35640

HEAT DEFLECTOR
INSTALLATION
25-36644

R/W COVER INSTL
1ST STAGE ENGINE
25-25871

MISSILE SECTION
49

1ST STAGE CYLIND
SKIRT INSTL
25-35492

ELEC CABLE INSTL
R&D SECTION 49
25-36616

R/W COVER INSTL
1ST STAGE ENGINE
25-25871

4

ERSTAGE ASSY
ERSTAGE 1-2
31011

INTERSTAGE
TR EQUIP INSTL
18140

ELEC CABLE INSTL
R&D SECTION 47
25-36617

AUTOMATIC
BATTERY - CTCL
10-20942

PREMATURE SEPARA-
TION TIMER SWITCH
10-20987

1ST STAGE INSULATED
SKIRT ASSEMBLY
25-35492

ELEC CABLE INSTL
R&D SECTION 49
25-36616

BOEING

VOL

SEC

VTI

NO

PAGE

22-3929-431

12

50

1

SELES #10
66247-107-21

SELY SECTION CENTRAL
66247-107-21

WICH 66247-107-21 #10 WICH-107-21 #10 SET
66247-107-21 #10

WICH-107-21 #10 WICH-107-21 #10 WICH-107-21 #10
66247-107-21 #10

D2CA 66247-107-21 SMOOTHER
66247-107-21 #10

SELF 66247-107-21 #44 SIGNAL CONDITIONER
66247-107-21 #44

D2CA 66247-107-21 #10 WICH-107-21 #10 WICH-107-21 #10
66247-107-21 #10

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66247-107-21 #10

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2

- (1) THIS IS NOT A SERIALIZED ITEM.
- (2) FOR REF. TO VARIABLE INSTRUMENTATION MOD. KITS SEE 00006-670-91.
- (3) VIEW OF PART NUMBER.
- (4) REF. INSTALLATION DRAWING 15019-100.
- (5) NO OTHER SERIAL NUMBER ASSIGNED.

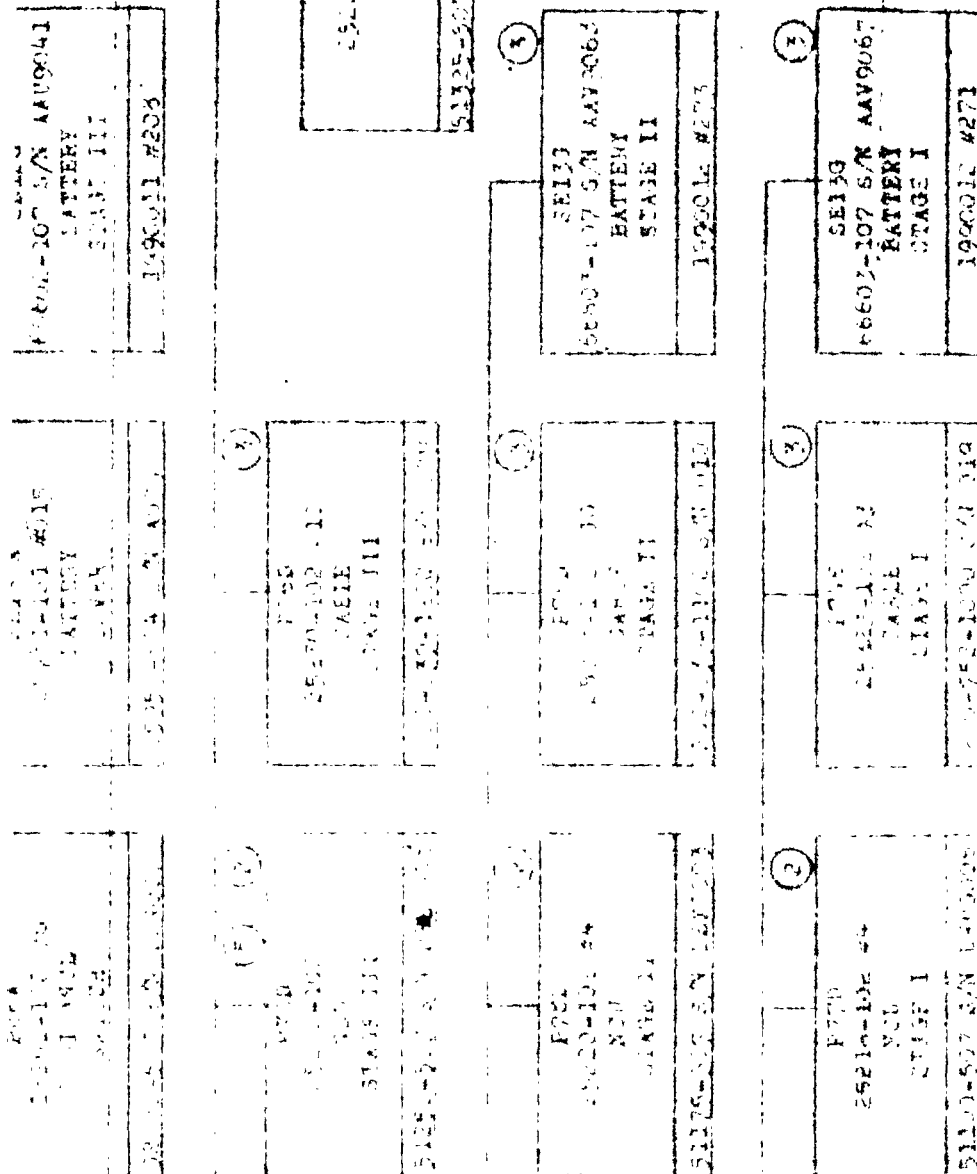
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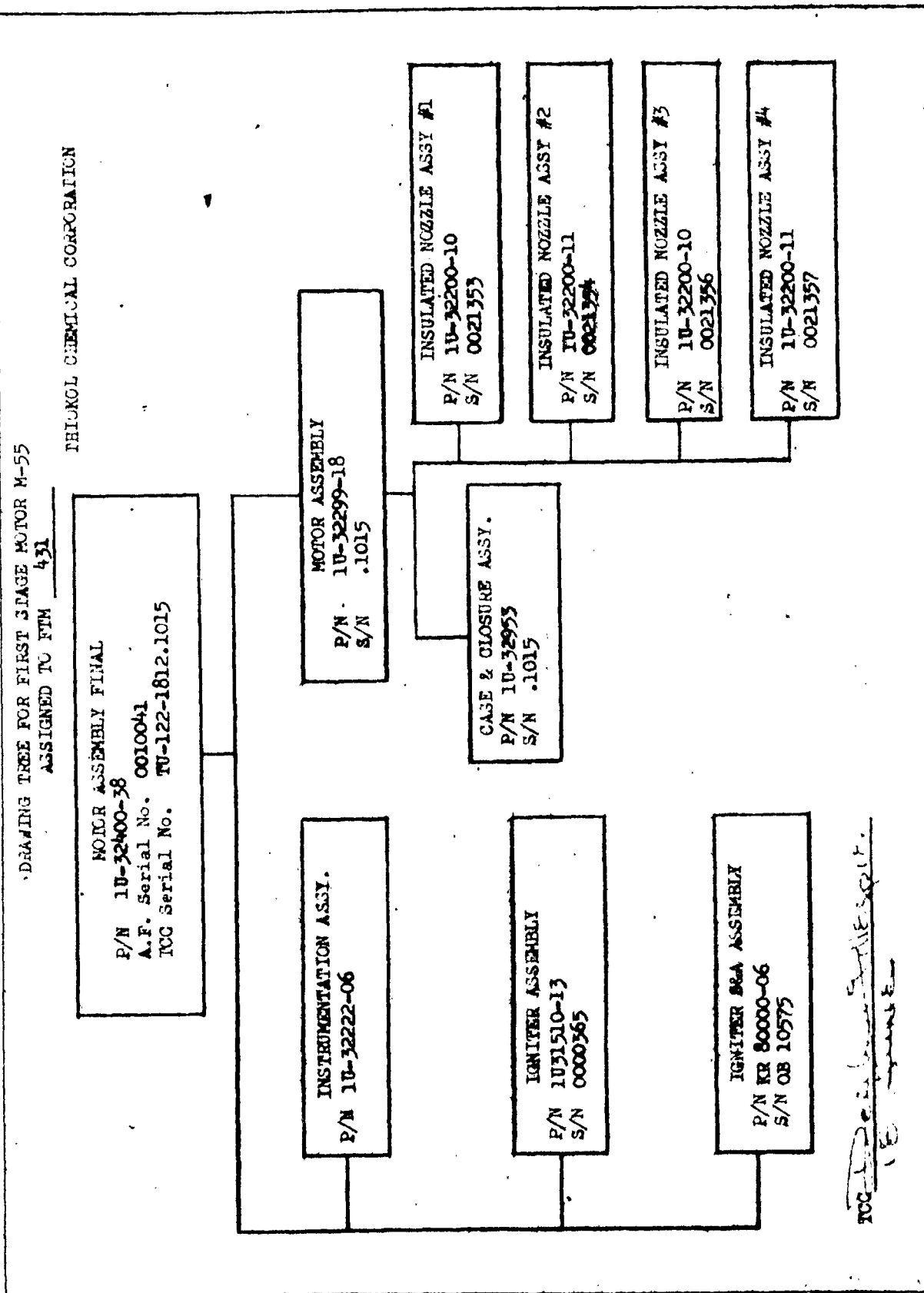
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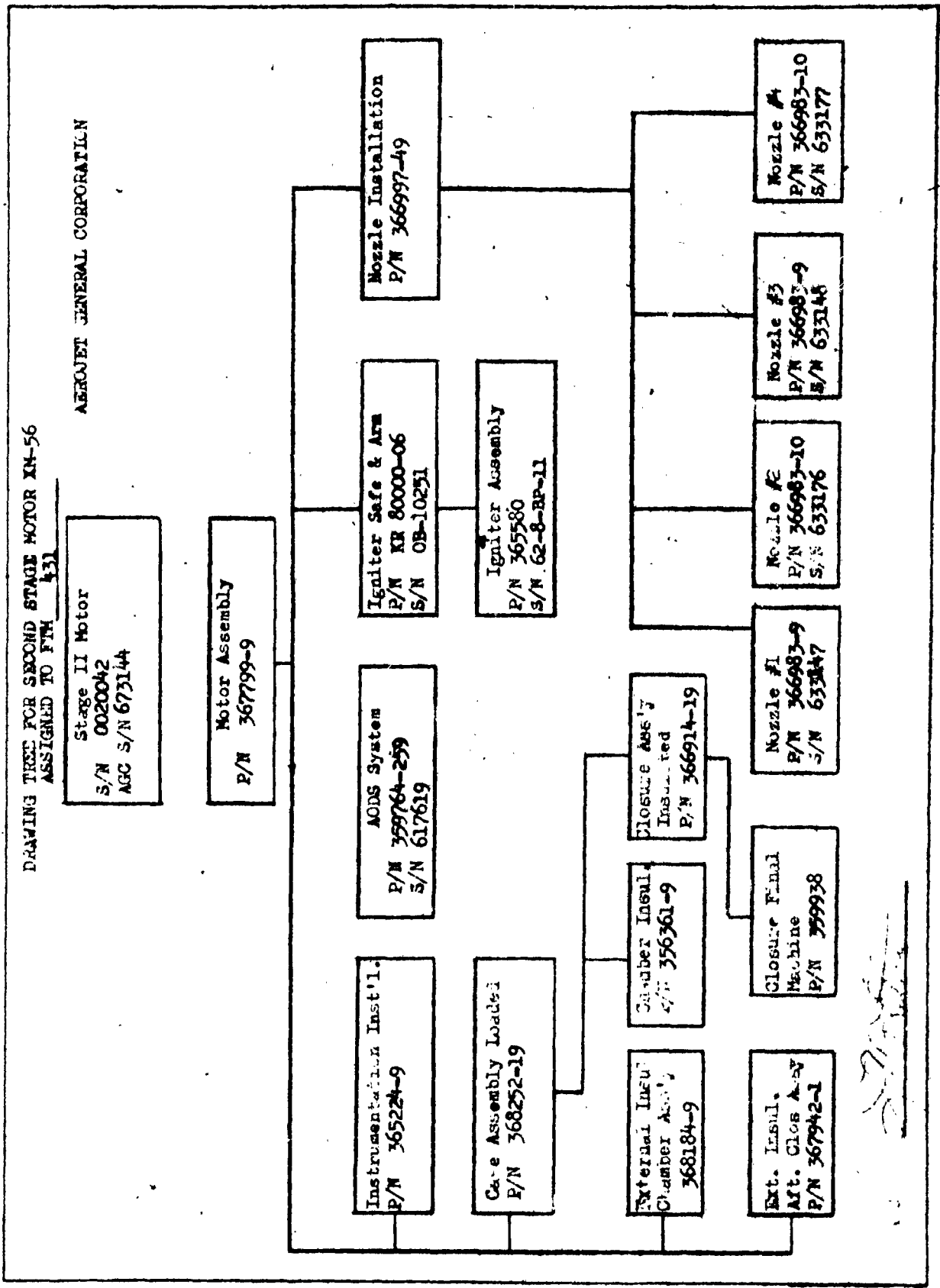
DRAWING BREAKDOWN
FOR FTM-431

APPROVED BY	<i>[Signature]</i>	AMR-SK-310
DRAWN BY	C. H. Muse	
DATE	6-17-63	

BOEING	VOL	NO 52-5929-431
	SEC. VII	PAGE 13







MODEL XSM-80B

DOCUMENT NUMBER D2-3929-

SECTION OR ADDENDUM NO. VIII

TITLE

CHANGE STATUS

NO. OF PAGES 6

DATE June 19, 1963

PREPARED BY

APPROVED BY

APPROVED BY

APPROVED ~~BY~~

WORK ORDER

UNIT NO.

ITEM NO.

Sub-section title page

DOCUMENTS

D2-3929-431

PAGE 0

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510

PTM 431

COMMITTED ENGINEERING CHANGES

A. Changes committed jointly by Seattle and BATC*:

<u>CHANGE NO.</u>	<u>EFFECTIVITY</u>	<u>PLANNING COMPL.</u>	<u>DDRC STATUS</u>
CCP 475	431 & On	6-14-3	Compl. 3-26-2
475-1	431 & On	2-11-3	Compl. 10-25-2
646	425, 425A 431 - 445	3-29-3	Compl. 12-12-2
666	423 & On less 424 & 426	3-19-3	Compl. 10-25-2
728	423 & On less 424 & 426	10-10-2	Compl. 9-18-2
737	423 & On less 424 & 426	12-11-2	Compl. 6-15-2
781	431 - 434	5-24-3	Compl. 10-15-2
838	431 & On	5-26-3	Compl. 11-26-2
838-1	431 & On	4-19-3	Compl. 11-6-2
857	423 & On less 424 & 426	12-22-3	Compl. 11-20-2
884	423-434 less 424 & 426	1-29-3	Compl. 12-4-2
PRR 4240	431 - 434	5-1-3	Compl. 9-19-2
4259	431 & On	6-5-3	Compl. 12-6-2
83546	419-434 less 421 & 422	12-6-2	Compl. 12-6-2

*Above Changes were shown "Incomp" in D2-10889 Seattle Acceptance Summary Document.

B. New Changes other than those shown above:

ECP 634	431 - 448	6-6-3	Dwg. 25-18124 Rev. K
CCP 781A	431 - 434	6-17-3	Compl. 6-11-3
1158	431 & On	Compl. by Seattle	Compl. 5-29-3
3000-12	431 - 448	5-10-3	Compl. 3-21-3
PRR 4059-	431 & On	7-10-2	Compl. 5-14-2

REVISED

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BOEING

VOL.

SEC VIII

NO D2-3929-431

PAGE 1

FTM 431

COMMITTED ENGINEERING CHANGES

B. New Changes other than those shown above: (continued)

<u>CHANGE NO.</u>	<u>EFFECTIVITY</u>	<u>PLANNING COMPL.</u>	<u>DDRC STATUS</u>
PRR 4145	431 & On	4-24-3	Compl. 8-2-2
4149	431 & On	4-18-3	Compl. 8-24-2
4247	431 & On	4-22-3	Compl. 11-12-2
4260	431 & 434	4-18-3	Compl. 11-17-2
4272-1	431 - 434	5-29-3	Compl. 1-22-3
4276	431 & On	4-18-3	Compl. 1-17-3
4278	431 & On	1-25-3	Compl. 1-14-3
4285	431 & On	4-16-3	Compl. 2-15-3
4290	431 & On	Compl. by Seattle	Compl. 3-27-3
4304	431 - 434	5-27-3	Compl. 5-24-3
4304A	431 - 434	No Action Req'd.	COMPL. 6-4-3
11404	431 & On	4-30-3	Compl. 12-14-2
11916	431 & On	4-11-3	Compl. 3-20-3
80957	431 & On	3-12-3	Compl. 11-14-3
80959	431 & On	4-19-3	Compl. 12-12-2
83365R2S	431 - 434	4-19-3	Compl. 11-1-2
83745	431 & 432	5-31-3	Compl. 5-23-3
83751	431, 434 & 435	6-12-3	Compl. 6-6-3
83754	431 - 445	6-11-3	Compl. 6-10-3

C. Out-of Sequence Changes:

PRR 83734	427 & On	6-13-3	Compl. 5-23-3
83755	429 & On	6-10-3	Compl. 6-6-3

ASSOCIATE CONTRACTOR CHANGES

The following Engineering changes were accomplished at AMR on FTM 431.

CHANGE NO.

JOB NO.

ER NO.

NONE.

Signed [Signature]

Representative for
Thiokol Chemical Corporation

Date 15 June 1963

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BOEING

VOL.

NO D2-3929-431

SEC.

VIII

PAGE

3

ASSOCIATE CONTRACTOR CHANGES

The following Engineering changes were accomplished at AMR on FTM 431.

CHANGE NO.

JOB NO.

ER NO.

NONE.

Signed _____
Representative for
Aerojet - General

Date _____

REVISED _____

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BOEING

VOL.

NO D2-3929-431

SEC. VIII

PAGE 4

ASSOCIATE CONTRACTOR CHANGES

The following Engineering changes were accomplished at AMR on FTM 431.

CHANGE NO.

JOB NO.

ER NO.

NONE.

Signed: 

Representative for
Hercules Powder Company

Date 6-15-63